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PREFACE

The Index covers the contents of Volumes 21 to 25, inclusive (1921–1925), of the Proceedings of the American Society for Testing Materials completely, exclusive only of routine business. The contents of the individual volumes appear in the Tables of Contents of Proceedings that follows the Author Index. In 1921 the Proceedings were published in one volume. In the remaining years covered by the Index, the Proceedings appeared in two volumes, Part I containing committee reports, discussions and tentative standards, and Part II technical papers and discussions. Part I or Part II is indicated in the index by the roman numerals, I or II. The volume is indicated by a number in bold face, **21, 22,** etc.

Committee reports have been indexed in two ways: first, each committee report is indexed under the subject designated in its title, at which place a synopsis of the successive reports of the committee is given; second, the subjects covered in the committee reports, including all specifications, methods, definitions, etc., are indexed under the appropriate key words. Titles of papers are distinguished by quotation marks.

The list of key words in the Subject Index is given separately at the beginning of the volume. This list, it is believed, will prove a convenience in determining the key word or key words under which the subject sought is likely to appear, before turning to the Subject Index itself. The key words are not restricted to the words in the titles of reports and papers, but the aim has been to further facilitate the search for information on important subjects by directing attention through the key words to pertinent matter in the body of the text of reports, papers and discussions. The cross references between key words serve to refer the reader to other places in the Index where information on the subject first consulted might also be found, or to topics that are related to the subject first consulted.

In the Author Index, references to committee reports appear under the names of the chairmen, vice-chairmen and secretaries of the committees concerned.

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"The Significance of the Common Test Methods for Determining the Strength of Mortars." J. W. Gowen and H. W. Leavitt. **25**, II, 218 (1925). Discussion, 228.

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"An Investigation in the Use of Calcium Chloride as a Curing Agent and Accelerator of Concrete." H. F. Clemmer and Fred Burggraf. **23**, II, 296 (1923). Discussion, 315.

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Submitting revisions of: Tentative Methods of Testing Insulating Varnishes; Test for Momentary Dielectric Strength of Sheet Insulating Materials; Test for Phase Difference (Power Factor) and Dielectric Constant of Molded Electrical Insulating Materials at Radio Frequencies. Submitting as tentative: method of test of electrical insulating materials for voltage effects at radio frequencies; testing cable splicing and pothead compounds. Reporting results of tests showing effect of speed of raising voltage on dielectric strength of black varnished cambric. Reporting results of sludging tests on transformer oils. Transmitting appendices on: "Method for Determining Sludging Properties of Transformer Oils," by E. A. Snyder; Method for Determining Sludging Properties of Transformer Oils; A Method of Measuring Power Factor and Dielectric Constant of Insulating Materials at Commercial Frequencies. **23,** I, 431 (1923).

INSULATING MATERIALS (*Continued*).

Reports of the Committee on Electrical Insulating Materials (*Continued*):

Submitting revisions of: Standard Methods of Testing Molded Insulating Materials. Recommending for adoption as standard: Methods of Testing Transformer and Switch Oils. Submitting revisions of: Tentative Methods of Testing Insulating Varnishes; Test for Dielectric Strength of Sheet and Tape Insulating Materials; Testing Cable Splicing and Pothead Compounds; Testing Electrical Porcelain. Submitting as tentative: methods of testing untreated insulating paper. Transmitting appendices on: "Life Test for Transformer Oils," by E. A. Snyder; Dielectric Strength of Electrical Insulating Materials; Dielectric Power Loss and Power Factor of the Charging Current in Insulating Materials; "A Method for Estimating Acidity of Oils," by D. C. Cox. **24**, I, 626 (1924).

Submitting revisions of: Standard Methods of Testing Molded Insulating Materials. Submitting revisions of: Tentative Methods of Testing Insulating Varnishes; Testing Cable Splicing and Pothead Compounds; Testing Untreated Insulating Paper; Testing Electrical Insulating Materials for Voltage Effects at Radio Frequencies. Submitting as tentative: methods of testing laminated sheet insulating materials. Transmitting an appendix on: "Life Test for Transformer Oils," by E. A. Snyder and D. C. Cox. **25**, I, 348 (1925). Discussion, 369.

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Proposed specifications for lampblack. **24**, I, 481 (1924).

Tentative Specifications for Lampblack. **25**, I, 650 (1925).

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See also **Alloys** (page 26).

"Commercial Practice Relating to Sizes of Lead Pipe." W. A. Cowan. **24**, I, 265 (1924).

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Tentative Revision of Standard Methods of Chemical Analysis of Pig Lead. **23**, I, 959 (1923).

Tentative Specifications for:

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"Consistency of Lime Pastes and Mortars." W. E. Emley. **23**, II, 440 (1923).

Cooperative Tests on Effect of Hydrated Lime on Concrete Mixtures. **21**, 294 (1921). Discussion, 302.

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Discussion on Hydrated Lime in Concrete. **21**, 302 (1921).

Effect on bond of replacing cement with hydrated lime. **25**, II, 270 (1925).

"Effect of Hydrated Lime on Strength and Flow of Concrete." H. C. Berry. **22**, I, 290 (1922).

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"Electrical Resistance Methods for the Determination of the Time of Set of Lime Plaster." J. W. Stockett, Jr. **24**, I, 404 (1924).

"Investigation of Effect of Hydrated Lime in Concrete." H. F. Clemmer. **22**, I, 288 (1922).

Preparation of lime putty, Specifications for Quicklime for Structural Purposes **24**, I, 802 (1924).

Reports of the Committee on Lime:

Submitting as tentative: specifications for quicklime for structural purposes; hydrated lime for structural purposes, to replace the standard specifications of the same titles. Submitting revisions of: Tentative Methods of Chemical Analysis of Limestone, Lime and Hydrated Lime. Transmitting appendix on: Cooperative Tests on Effect of Hydrated Lime on Concrete Mixtures. **21**, 289 (1921). Discussion, 302.

Submitting revisions of: Tentative Specifications for Quicklime for Structural Purposes; Hydrated Lime for Structural Purposes; Methods of Chemical Analysis of Limestone, Lime and Hydrated Lime. Submitting as tentative: specifications for quicklime and hydrated lime for use in the cooking of rags for the manufacture of paper; quicklime and hydrated lime for use in the manufacture of sulfite pulp; hydrated lime for the manufacture of varnish; lime for use in the textile industry; lime for the manufacture of silica brick; definitions of terms relating to lime; methods of sampling, inspection, packing and marking of lime and lime products. Transmitting appendices on: "Analysis of Tests on Effect of Hydrated Lime in Concrete Made at Lewis Institute," by T. B. Shertzer; "Effect of Hydrated Lime on the Strength and Flow of Concrete," by W. E. Emley; "Investigation of Effect of Hydrated Lime in Concrete," by H. F. Clemmer; "Effect of Hydrated Lime on Strength and Flow of Concrete," by H. C. Berry. **22**, I, 264 (1922). Discussion, 292.

Submitting revisions of: Tentative Specifications for Hydrated Lime for Structural Purposes; Methods of Sampling, Inspection, Packing and Marking of Quicklime and Lime Products. **23**, I, 208 (1923).

Recommending for adoption as standard: Specifications for Hydrated Lime for Structural Purposes; Quicklime and Hydrated Lime for Use in the Textile Industry; Quicklime and Hydrated Lime for the

Manufacture of Silica Brick. Submitting revisions of: Tentative Specifications for Quicklime for Structural Purposes; Quicklime and Hydrated Lime for Use in the Manufacture of Sulfite Pulp; Quicklime and Hydrated Lime for Use in the Cooking of Rags for the Manufacture of Paper; Methods of Sampling, Inspection, Packing and Marking of Quicklime and Lime Products; Definitions of Terms Relating to Lime. Submitting as tentative: specifications for quicklime for use in water treatment; hydrated lime for use in water treatment. Transmitting appendix on: "Electrical Resistance Methods for the Determination of the Time of Set of Lime Plaster," by J. W. Stockett, Jr. **24**, I, 397 (1924).

Submitting revisions of: Standard Specifications for Hydrated Lime for Structural Purposes. Recommending for adoption as standard: Specifications for Quicklime and Hydrated Lime for Use in the Cooking of Rags for the Manufacture of Paper. Submitting revisions of: Tentative Specifications for Quicklime and Hydrated Lime for Use in the Manufacture of Sulfite Pulp; Quicklime for Use in Water Treatment; Hydrated Lime for Use in Water Treatment; Methods of Chemical Analysis of Limestone, Quicklime and Hydrated Lime. **25**, I, 186 (1925).

Tentative Definitions of Terms Relating to Lime. **22**, I, 731 (1922); **24**, I, 848 (1924).

Tentative Methods of:

Chemical Analysis of Limestone, Lime and Hydrated Lime. **21**, 565 (1921).

Chemical Analysis of Limestone, Quicklime and Hydrated Lime. **22**, I, 715 (1922); **25**, I, 618 (1925).

Sampling, Inspection, Packing and Marking of Quicklime and Lime Products. **22**, I, 728 (1922); **23**, I, 636 (1923); **24**, I, 844 (1924).

Tentative Revision of Standard Specifications for Hydrated Lime for Structural Purposes. **25**, I, 907 (1925).

Tentative Specifications for:

Hydrated Lime for Structural Purposes. **21**, 537 (1921); **22**, I, 691 (1922); **23**, I, 620 (1923).

Hydrated Lime for Use in Water Treatment. **24**, I, 811 (1924); **25**, I, 616 (1925).

Hydrated Lime for the Manufacture of Varnish. **22**, I, 701 (1922).

Quicklime and Hydrated Lime for the Manufacture of Silica Brick. **22**, I, 705 (1922).

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Submitting revisions of: Standard Test for Penetration of Bituminous Materials: Method for Determination of Softening Point of Bitum-

inous Materials Other than Tar Products. Recommending for adoption as standard: Test for Quantity of Clay and Silt in Gravel for Highway Construction; Quantity of Clay and Silt in Sand for Highway Construction. Submitting as tentative: specifications for calcium chloride for dust prevention; asphalt cement, 40 to 50 penetration; asphalt cement, 50 to 60 penetration; asphalt cement, 60 to 70 penetration; asphalt cement, 70 to 90 penetration; asphalt cement, 90 to 120 penetration; high-carbon tar for surface treatment, cold application; low-carbon tar for surface treatment, cold application; high-carbon tar cement for use cold in repair work (cut-back product); low-carbon tar cement for use cold in repair work (cut-back product); high-carbon tar for surface treatment, hot application; low-carbon tar for surface treatment, hot application; high-carbon tar cement; low-carbon tar cement; coal-tar pitch for block filler; method of test for ductility of bituminous materials; method of test for water in bituminous materials. **21**, 375 (1921).

Submitting revisions of: Standard Methods of Test for Softening Point of Bituminous Materials Other Than Tar Products (Ring-and-Ball Method); Quantity of Clay and Silt in Sand for Highway Construction. Recommending for adoption as standard: Specifications for Block for Granite Block Pavements; Methods of Sampling Stone, Slag, Gravel, Sand and Stone-Block for Use as Highway Materials. Including Some Material Survey Methods. Submitting revisions of: Tentative Specifications for Coal-Tar Pitch for Block Filler; Calcium Chloride for Dust Prevention; Asphalt Cement, 40 to 50, 50 to 60, 60 to 70, 70 to 90, and 90 to 120 Penetration; Method of Test for Ductility of Bituminous Materials. Submitting as tentative: specifications for block for recut granite block pavements; block for durax granite pavements; asphalt cement, 10 to 15, 15 to 25, 120 to 150 penetration; method of mechanical analysis of sub-grade soils; method of float test for bituminous road materials; methods of sampling bituminous materials; method of test for consistency of portland cement-concrete for pavements or for pavement base. **22**, I, 452 (1922).

Submitting revisions of: Standard Specifications for Materials for Cement Mortar Bed for Brick, Stone Block and Wood Block Pavements Methods of Test for Softening Point of Bituminous Materials Other Than Tar Products (Ring-and-Ball Method); Apparent Specific Gravity of Sand, Stone and Slag Screenings and Other Fine Non-Bituminous Highway Materials; Soluble Bitumen. Recommending for adoption as standard: Specifications for Broken Slag for Waterbound Base and Wearing Course; Shovel-Run or Crusher-Run Broken Slag for Waterbound Base; Block for Durax Granite Pavements; Block for Recut Granite Block Pavements. Submitting revisions of: Tentative Specifications for Natural or Artificial Sand-Clay Mixtures for Highway Surfacing; Commercial Sizes of Broken Stone and Broken Slag for Highway Construction; Asphalt Cement, 10 to 15, 15 to 25, 40 to 50, 50 to 60, 60 to 70, 70 to 90, 90 to 120, 120 to 150 Penetration; High-Carbon Tar for Surface Treatment, Cold Application; Low-Carbon Tar for Surface Treatment, Cold Application; High-Carbon Tar Cement for Use Cold in Repair Work (Cut-Back Product); Low-Carbon Tar Cement for Use Cold in Repair Work (Cut-Back Product); High-Carbon Tar for Surface Treatment, Hot Application; Low-Carbon Tar for Surface Treatment, Hot Application; High-Carbon Tar Cement; Low-Carbon Tar Cement; Coal-Tar Pitch for Stone Block Filler; Methods of Mechanical Analysis of Subgrade Soils; Float Test for Bituminous Road Materials; Sampling Bituminous Materials. Submitting as tentative: specifications for asphalt cement, 25 to 30 penetration, for use in sheet asphalt and asphaltic concrete pavements; asphalt cement, 30 to 40 penetration, for use in sheet asphalt and asphaltic concrete pavements; broken slag for bituminous macadam wearing surface; broken slag for bituminous concrete (coarse-graded aggregate type);

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Submitting revisions of: Standard Method of Test for Softening Point of Bituminous Materials (Ring-and-Ball) Method; Softening Point of Tar Products (Cube-in-Water Method); Specifications for Broken Slag for Waterbound Base and Wearing Course; Shovel-Run or Crusher-Run Broken Slag for Waterbound Base. Submitting revisions of: Tentative Specifications for Asphalt Cement, 70 to 90 Penetration, for Use in Asphalt Macadam Pavements; Asphalt Cement, 90 to 120 Penetration, for Use in Asphalt Macadam Pavements; Broken Slag; Method of Float Test of Bituminous Road Materials; Mechanical Analysis of Subgrade Soils. Submitting as tentative: specifications for broken stone for waterbound base; broken stone for waterbound macadam surface course; broken stone for bituminous macadam; broken stone for bituminous concrete base; broken stone for bituminous concrete surface; broken slag for bituminous macadam base; broken slag for bituminous concrete base. Recommending for adoption as standard: Method of Test for Water in Petroleum Products and Other Bituminous Materials. Transmitting appendices on: Report of Special Sub-Committee, to Consider Definitions for Specific Gravity Reported by Committee E-8; Report of Sectional Committee on Asphalt Content; Report of Sectional Committee on Distillation. **24**, I, 571 (1924). Addendum, 585.

Submitting revisions of: Standard Methods of Test for Penetration of Bituminous Materials; Test for Specific Gravity of Sand, Stone and Slag Screenings and Other Fine Non-Bituminous Highway Materials; Test for Distillation of Bituminous Materials Suitable for Road Treatment. Submitting revisions of: Tentative Specifications for High-Carbon Tar Cement for Use Cold in Repair Work (Cut-Back Product); High-Carbon Tar Cement; Method of Float Test for Bituminous Materials; Mechanical Analysis of Subgrade Soils; Test for Consistency of Portland-Cement Concrete for Pavements or for Pavement Base. Submitting as tentative: method of test for the determination of moisture equivalent of subgrade soils in the field. Recommending for adoption as standard: Methods of Sampling Bituminous Material. Transmitting an appendix on: Report of Sectional Committee on Penetration. **25**, I, 293 (1925).

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Tentative Revision of Standard Specifications for Naval Brass Rods for Structural Purposes. **25**, I, 903 (1925).

"Variation in the Effect of Rodding Concrete." F. E. Giesecke. **21**, 1008 (1921).

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"Accelerated Aging Tests on Rubber Goods." W. W. Evans. **22**, II, 548 (1922).

"An Apparatus and Method for Determination of Resistance to Abrasion of Rubber Products." W. W. Evans. **23**, II, 517 (1923). Discussion, 522.

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Extracts from standardization rules of the American Institute of Electrical Engineers. **21**, 760 (1921).

Joint Rubber Insulation Committee Procedure for the Analysis of Rubber Compound. **21**, 762 (1921).

"Methods for Conducting Physical Tests on Rubber Products." A. H. Nuckolls. **22**, II, 541 (1922).

Minority report regarding revision of cotton rubber-lined fire hose specifications. **21**, 419 (1921).

Performance tests of rubber products. **25**, I, 374 (1925).

Proposed Revisions of the Tentative Specifications for Cotton Rubber-Lined Fire Hose for Private Fire Department Use (D 14 – 21 T). **22**, I, 494 (1922).

Proposed specifications for rubber disks for alarm valves in sprinkler systems. **25**, I, 372 (1925).

Reports of the Committee on Rubber Products:

Submitting as tentative: specifications for cotton rubber-lined fire hose for private fire department use; cotton rubber-lined fire hose for public fire department use; wrapped air hose for use with pneumatic tools; braided air hose for use with pneumatic tools; rubber belting for power transmission; steam hose, to replace standard specifications of similar titles. Submitting revisions of: Tentative Specifications for: Insulated Wire and Cable: 30-per-cent Hevea Rubber; Commercial Adhesive Tape for Electrical Purposes. Submitting as tentative: specifications for rubber gloves for electrical workers; rubber insulating tape. **21**, 412 (1921). Minority report regarding revisions of cotton rubber-lined fire hose specifications, 419. Discussion, 421.

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Reports of the Committee on Rubber Products (*Continued*):

Submitting revisions of: Standard Methods of Testing Cotton Rubber-Lined Hose. Submitting revisions of: Tentative Specifications for Cotton Rubber-Lined Fire Hose for Private Fire Department Use; Commercial Adhesive Tape for Electrical Purposes; Rubber Insulating Tape; Rubber Gloves for Electrical Workers on Apparatus or Circuits Not Exceeding 3000 Volts to Ground. Submitting as tentative: specifications for rubber pump valves; methods of testing rubber products. **22**, I, 486 (1922).

Recommending for adoption as standard: Specifications for Cotton Rubber-Lined Fire Hose for Private Fire Department Use; Cotton Rubber-Lined Fire Hose for Public Fire Department Use; Rubber Gloves for Electrical Workers on Apparatus or Circuits Not Exceeding 3000 Volts to Ground; Rubber Pump Valves. Submitting revisions of: Tentative Specifications for Wrapped Air Hose for Use with Pneumatic Tools; Braided Air Hose for Use with Pneumatic Tools; Rubber Belting for Power Transmission; Methods of Testing Rubber Products. Submitting as tentative: specifications for wrapped cold-water hose; rubber matting for use around electrical apparatus or circuits not exceeding 3000 volts to ground. **23**, I, 461 (1923). Discussion, 470.

Submitting revisions of the Standard Methods of Testing Cotton Rubber-Lined Fire Hose. Recommending for adoption as standard: Specifications for Adhesive Tape; Wrapped Air Hose for Use with Pneumatic Tools; Rubber Belting for Power Transmission; Wrapped Cold Water Hose; Rubber Matting for Use Around Electrical Apparatus; Braided Air Hose for Use with Pneumatic Tools. Submitting revisions of Tentative Specifications for Steam Hose. **24**, I, 666 (1924).

Progress report transmitting proposed specifications for rubber disks for alarm valves. **25**, I, 371 (1925).

Tentative Methods of Testing Rubber Products. **22**, I, 947 (1922); **23**, I, 870 (1923).

Tentative Revisions of Standard Methods of Testing Cotton Rubber-Lined Hose. **22**, I, 994 (1922); **23**, I, 973 (1923).

Tentative Specifications for:

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Cotton Rubber-Lined Fire Hose for Public Fire Department Use. **21**, 778 (1921).

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Rubber Gloves for Electrical Workers on Apparatus or Circuits Not Exceeding 3000 Volts to Ground. **21**, 805 (1921); **22**, I, 937 (1922).

Rubber Insulating Tape. **21**, 802 (1921); **22**, I, 934 (1922).

Rubber Matting for Use Around Electrical Apparatus or Circuits Not Exceeding 3000 Volts to Ground. **23**, I, 867 (1923).

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Wrapped Cold-Water Hose. **23**, I, 864 (1923).

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"Effect of Finely Divided Lignite Coal on the Strength of Concrete." I. F. Morrison and H. R. Webb. **24,** II, 841 (1924). Discussion, 845.

Effect of quality of sand on wear of concrete. **24,** II, 889 (1924).

"A Method for Measuring Sand in an Inundated Condition." R. L. Bertin. **22,** II, 404 (1922).

Tentative Definition of the Term Sand. **24,** I, 851 (1924); **25,** I, 635 (1925).

Tentative Methods of:

Decantation Test for Sand and Other Fine Aggregates. **22,** I, 802 (1922).

Mechanical Analysis of Subgrade Soils. **22,** I, 803 (1922); **23,** I, 749 (1923); **24,** I, 922 (1924); **25,** I, 742 (1925).

Test for Organic Impurities in Sands for Concrete. **21,** 585 (1921).

Tentative Revision of Standard Method of Test for Apparent Specific Gravity of Sand, Stone and Slag Screenings, and Other Fine Non-Bituminous Highway Materials. **23,** I, 970 (1923).

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Natural or Artificial Sand-Clay Mixtures for Road Surfacing. **23,** I, 718 (1923).

Sand for Sheet Asphalt and Bituminous Concrete Pavements. **23,** I, 717 (1923).

"The Use of Excess Sand and Pit-Run Gravel in Concrete Pavements." R. W. Crum. **22,** II, 375 (1922).

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Report on neutralization number and saponification. **25,** I, 280 (1925).

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Report on saponification. **21,** 369 (1921).

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"Influence of Diameter of Wire on Performance of Sieves." **24**, II, 1091 (1924).

List of Points to be Considered in Drawing up Specifications for a Sieving Test. **24**, I, 718 (1924); **25**, I, 853 (1925).

Reports of the Committee on Screen Wire Cloth:

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Submitting as tentative: specifications for non-ferrous insect screen cloth. **23**, I, 475 (1923).

Submitting revisions of: Tentative Specifications for Non-Ferrous Insect Screen Cloth. **25**, I, 384 (1925).

"A Study of Sieve Specifications." Lewis V. Judson. **24**, II, 1084 (1924).

Tentative Definition of the Term Screen (Sieve). **25**, I, 889 (1925).

Tentative Specifications for:

Non-Ferrous Insect Screen Cloth. **23**, I, 591 (1923); **25**, I, 587 (1925).

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Submitting revisions of: Standard Specifications for Carbon Steel Rails; Quenched High-Carbon-Steel Splice Bars; Quenched Carbon-Steel Track Bolts; Steel Track Spikes; Steel Screw Spikes; Low-Carbon-Steel Splice Bars; Quenched Alloy-Steel Track Bolts; Structural Steel for Bridges; Structural Nickel Steel; Structural Steel for Buildings; Structural Steel for Locomotives; Structural Steel for Cars; Carbon-Steel Bars for Railway Springs; Carbon-Steel Bars for Railway Springs with Special Silicon Requirement; Carbon-Steel Bars for Vehicle and Automobile Springs; Silico-Manganese-Steel Bars for Automobile and Railway Springs; Chrome-Vanadium-Steel Bars for Automobile and Railways Springs; Billet Steel Concrete Reinforcement Bars; Carbon-Steel and Alloy-Steel Blooms, Billets and Slabs for Forgings; Carbon-Steel and Alloy-Steel Forgings; Quenched-and-Tempered Carbon-Steel Axles, Shafts, and Other Forgings for Locomotives and Cars; Quenched-and-Tempered Alloy-Steel Axles, Shafts, and Other Forgings for Locomotives and Cars; Carbon-Steel Forgings for Locomotives; Cold-Rolled Steel Axles; Steel Castings; Lap-Welded and Seamless Steel Boiler Tubes for Locomotives; Automobile Carbon and Alloy Steels; Boiler and Fire-Box Steel for Locomotives; Structural Steel for Locomotives; Structural Steel for Cars (Structural Grade Only); Structural Steel for Ships; Steel Castings; Welded Steel Pipe. Recommending for adoption as standard: Specifications for Commercial Bar Steels. Submitting revisions of the Tentative Specifications for: Tie Plates; Low-Carbon Steel Track Bolts; Steel Plates for Forge Welding; Boiler and Firebox Steel for Stationary Service; Carbon Tool Steel. Submitting as tentative: specifications for cold-drawn steel wire for concrete reinforcement; lap-welded and seamless steel and lap-welded iron boiler tubes. **21**, 66 (1921). Addendum, 87.

Submitting revisions of: Standard Specifications for Steel Track Spikes; Lap-Welded and Seamless Steel Boiler Tubes for Locomotives; Welded and Seamless Steel Pipe; Automobile Carbon and Alloy Steels; Methods of Chemical Analysis of Plain Carbon Steel; Chemical Analysis of Alloy Steels. Submitting as tentative: specifications for carbon-steel castings for railroads. Transmitting appendices on: Proposed Revisions in Standards for Steel; Report of the Society Representatives on the Joint Committee on Specifications for Steel Castings for Railroads. **22**, I, 71 (1922).

Submitting revisions of: Standard Specifications for Open-Hearth Steel Girder and High Tee Rails; Structural Nickel Steel; Structural Steel for Locomotives; Structural Steel for Cars; Steel Castings; Welded

STEEL, REPORTS OF COMMITTEE (*Continued*).

Reports of the Committee on Steel (*Continued*):

and Seamless Steel Pipe; Boiler and Firebox Steel for Locomotives; Boiler Rivet Steel. Submitting revisions of: Tentative Specifications for Boiler and Firebox Steel for Stationary Service; Steel Plates for Forge Welding. Submitting as tentative: specifications for steel plates of flange quality for forge welding. Transmitting appendices on: Proposed Revisions in Standards and Tentative Standards for Steel; Report on Ladle Test Ingot Investigation. **23**, I, 80 (1923).

Submitting revisions of: Standard Specifications for Carbon-Steel Rails; Low-Carbon-Steel Splice Bars; Quenched Carbon-Steel Track Bolts; Rivet Steel for Ships; Wrought Solid Carbon-Steel Wheels for Steam Railway Service; Wrought Carbon-Steel Wheels for Electric Railway Service; Lap-Welded and Seamless Steel and Wrought-Iron Boiler Tubes for Stationary Service; Cold-Drawn Bessemer Steel Automatic Screw Stock; Cold-Drawn Open-Hearth Steel Automatic Screw Stock; Commercial Bar Steels; Structural Steel for Bridges; Structural Steel for Buildings; Structural Nickel Steel; Structural Steel for Locomotives; Structural Steel for Cars; Welded and Seamless Steel Pipe; Automobile Carbon and Alloy Steels; Boiler Rivet Steel. Recommending for adoption as standard: Specifications for Lap-Welded and Seamless Steel and Lap-Welded Iron Boiler Tubes; Boiler and Firebox Steel for Stationary Service; Carbon Tool Steel; Steel Castings; Methods of Chemical Analysis of Plain Carbon Steel; Alloy Steels. Submitting as tentative: specifications for high-speed tool steel. Transmitting an appendix on: Proposed Revisions in Standards and Tentative Standards for Steel. **24**, I, 65 (1924).

Submitting revisions of: Standard Specifications for Carbon-Steel and Alloy-Steel Forgings; Quenched-and-Tempered Carbon-Steel Axles, Shafts and Other Forgings for Locomotives and Cars; Carbon-Steel Forgings for Locomotives; Quenched-and-Tempered Alloy-Steel Axles, Shafts and Other Forgings for Locomotives and Cars; Welded and Seamless Steel Pipe; Lap-Welded and Seamless Steel and Lap-Welded Iron Boiler Tubes; Carbon-Steel Car and Tender Axles. Submitting as tentative: specifications for structural silicon steel; for carbon-steel castings for valves, flanges and fittings for high-temperature service; alloy-steel bolting material for high-temperature service. Transmitting an appendix on: Proposed Revisions in Standards for Steel. **25**, I, 75 (1925).

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STEEL, HEAT TREATMENT OF.

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Chemical Analysis of Alloy Steels. **22**, I, 600 (1922).

Chemical Analysis of Plain Carbon Steel. **22**, I, 578 (1922).

Metallographic Testing of Iron and Steel. **21**, 817 (1921); **23**, I, 919 (1923).

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Tentative Recommended Practice for:
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Heat Treatment of Case-Hardened Carbon-Steel Objects. **25**, I, 898 (1925).
Tentative Revisions of Standard Methods of:
Chemical Analysis of Alloy Steels. **22**, I, 985 (1922); **23**, I, 959 (1923).
Chemical Analysis of Plain Carbon Steel. **22**, I, 985 (1922); **23**, I, 959 (1923).
Test for Magnetic Properties of Iron and Steel. **23**, I, 958 (1923).
Tentative Revisions of Standard Specifications for:
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"Optical Strain Gages and Extensometers." L. B. Tuckerman. **23**, II, 602 (1923).
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"Physical Properties of Subgrade Materials." J. R. Boyd. **22**, II, 337 (1922). Discussion, 356.
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"Tests for Soils with Relation to Their Use in the Subgrade of Highways." A. T. Goldbeck and F. H. Jackson. **21**, 1057 (1921).

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Discussion on Effect of Sulfates on Concrete. **24**, II, 862 (1924).

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Fifth Preliminary Report of the Joint Committee on Investigation of Phosphorus and Sulfur in Steel: Effect of Sulfur on Structural Steel. **24**, I, 185 (1924).

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Organization of the Joint Committee on Investigation of Phosphorus and Sulfur in Steel. **23**, I, 136 (1923).

Preliminary Report of the Joint Committee on Investigation of Phosphorus and Sulfur in Steel: Effect of Sulfur on Rivet Steel. **22**, I, 94 (1922). Discussion, 127.

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Results of sulfur determination of motor fuels containing benzol. **25**, I, 269 (1925).

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TELEMETERS.
"New Developments in Electric Telemeters." O. S. Peters and R. S. Johnston. **23**, II, 592 (1923).

TENSION TESTING.
"Accelerated Aging Tests on Rubber Goods." W. W. Evans. **22**, II, 548 (1922).
Comparison of some data in both long and short-time tension tests at high temperatures. **24**, II, 77 (1924).
"A Constant Load Rate Testing Machine for Textiles." G. B. Haven. **23**, II, 640 (1923).
"Digest of Literature on Methods of Making Flexure and Tension Tests of Concrete." D. A. Abrams. **25**, I, 205 (1925).
Discussion in Methods of Determining Elastic Limit. **22**, I, 528 (1922).
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"High Tensile Strengths with Low-Carbon Steels. Roy H. Smith. **24**, II, 618 (1924).
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"Methods for Conducting Physical Tests on Rubber Products." A. H. Nuckolls. **22**, II, 541 (1922).
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"Softening of Hard-Rolled Electrolytic Copper." N. B. Pilling and G. P. Halliwell. **25**, II, 97 (1925).
"Stress Strain Measurements on Films of Drying Oils, Paints and Varnishes." Harley A. Nelson. **21**, 1111 (1921). Discussion, 1135.
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"Tensile Properties of Steel Castings." Lawford H. Fry. **22**, II, 150 (1922). Discussion, 172.
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Tentative Specifications for Textile Testing Machines. **25**, I, 829 (1925).

"The Significance of the Common Test Methods for Determining the Strength of Mortars." J. W. Gowan and H. W. Leavitt. **25**, II, 218 (1925). Discussion, 228.

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"Accelerated Wear Tests of Concrete Pavements." F. H. Jackson and J. T. Pauls. **24**, II, 864 (1924). Discussion, 897.

"Accelerometer for Measuring Impact." E. B. Smith. **23**, II, 626 (1923). Discussion, 632.

"A Constant Load Rate Testing Machine for Textiles." G. B. Haven. **23**, II, 640 (1923).

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"Fatigue of Metals by Direct Stress." P. L. Irwin. **25**, II, 53 (1925). Discussion, 64.

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"Influence of Diameter of Wire on Performance of Sieves." Duff A. Abrams. **24**, II, 1091 (1924).

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"A New Method of Magnetic Inspection." A. V. de Forest. **23**, II, 611 (1923). Discussion, 622.

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"Types of Apparatus Used in Testing the Corrodibility of Metals." Henry S. Rawdon, A. I. Krynitsky and W. H. Finkeldey. **24**, II, 717 (1924). Discussion, 753.

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"An Accelerated Electrolytic Corrosion Test." Robert J. Anderson and George M. Enos. **24**, II, 735 (1924). Discussion, 753.

"Analyses Illustrating the Importance of the Proper Sampling of Material." **22**, I, 212 (1922).

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Discussion on Tests of Thin Gage Metals. **24,** II, 1004 (1924).

"Effect of End Condition of Cylinder in Compression Tests of Concrete." H. F. Gonnerman. **24,** II, 1036 (1924). Discussion, 1064.

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"Resumé on Consistency: Nomenclature and Methods of Testing Prepared by the Sub-Committee, of Committee E-1, on Consistency, Plasticity, and Related Properties." A. T. Goldbeck. **23**, II, 438 (1923).

"Sludging Tests for Transformer Oils: A Criticism of Various Test Methods and a Proposed New Method of Test." E. A. Snyder. **24**, II, 954 (1924). Discussion, 973.

"A Stability Test for Bituminous Paving Mixtures." W. J. Emmons and B. A. Anderton. **25**, II, 346 (1925). Discussion, 365.

Statement on procedure in considering methods of testing. **22**, I, 503 (1922).

Suggested Definitions Relating to Methods of Testing. **22**, I, 516 (1922).

Suggested Methods of Verification of Testing Machines. **22**, I, 521 (1922).

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Suitability *versus* control test methods. **22**, I, 511 (1922).

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Tentative Definitions of Terms Relating to Methods of Testing. **23**, I, 937 (1923); **24**, I, 1109 (1924); **25**, I, 879 (1925).

Tentative Methods of:

Brinell Hardness Testing of Metallic Materials. **24**, I, 1099 (1924); **25**, I, 872 (1925).

Compression Testing of Metallic Materials. **24**, I, 1094 (1924); **25**, I, 867 (1925).

Tension Testing of Metallic Materials. **24**, I, 1081 (1924); **25**, I, 854 (1925).

Verification of Testing Machines. **23**, I, 911 (1923).

Verification of Testing Machines by Means of an Elastic Calibration Bar. **24**, I, 1106 (1924).

Tentative Revision of Standard Methods of Mechanical Testing of Metallic Materials. **23**, I, 975 (1923).

Tentative Specifications for Textile Testing Machines. **25**, I, 829 (1925).

"The Influence of the Ratio of Length to Diameter in the Compression Testing of Babbitt Metals." John R. Freeman, Jr., and Paul F. Brandt. **23**, II, 150 (1923).

"The Significance of the Common Test Methods for Determining the Strength of Mortars." J. W. Gowen and H. W. Leavitt. **25**, II, 218 (1925). Discussion, 228.

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"Types of Apparatus Used in Testing the Corrodibility of Metals." Henry S. Rawdon, A. I. Krynitsky, and W. H. Finkeldey. **24**, II, 717 (1924). Discussion, 753.

TEXTILE MATERIALS.

"A Constant Load Rate Testing Machine for Textiles." G. B. Haven. **23**, II, 640 (1923).

Reports of the Committee on Textile Materials:

Submitting as tentative: specifications for imperfections and tolerances for 60-in. 17¼-oz. square-woven tire builder fabric; definitions of terms relating to mechanical fabric. **21**, 425 (1921).

Submitting revisions of: Tentative Specifications for Imperfections and Tolerances for 60-in. 17¼-oz. Square-Woven Tire Builder Fabric; Methods of Testing Textiles; Definitions of Terms Relating to Mechanical Fabric. Submitting as tentative: methods of testing cotton fibers. **22**, I, 497 (1922).

Submitting revisions of: Standard General Methods of Testing Cotton Fabrics. Submitting revisions of: Tentative Specifications for Imperfections and Tolerances for 60-in. 17¼-oz. Square-Woven Builder Fabric. Submitting as tentative: specifications for imperfections and tolerances for cord tire fabrics; tolerances and test methods for cotton yarns and cords; tolerances for hose ducks and belt ducks. **23**, I, 471 (1923).

Submitting revisions of: Standard General Methods of Testing Cotton Fabrics. Submitting revisions of the Tentative Specifications for: Tolerances and Test Methods of Cotton Yarns and Cords; Tolerances for Hose and Belt Ducks. Submitting as tentative: specifications for tolerances and test methods for electrical cotton yarns; cotton sewing threads; Osnaburg cement sacks. **24**, I, 670 (1924).

Recommending for adoption as standard: Specifications for Tolerances for Hose Ducks and Belt Ducks; Tolerances and Test Methods for Electrical Cotton Yarns; Imperfections and Tolerances for Square-Woven Tire Fabrics; Imperfections and Tolerances for Cord Tire Fabrics; Specifications and Methods of Test for Osnaburg Cement Sacks. Submitting revisions of: Tentative Specifications for Tolerances and Test Methods for Cotton Yarns, Single and Plied; Tolerances and Test Methods for Cotton Sewing Threads; Textile Testing Machines. Submitting as tentative: specifications for tolerances for numbered cotton duck; tolerances and test methods for knit goods; methods of testing grease wool and allied fibers for scoured content. **25**, I, 376 (1925).

Tentative Definitions of:

Terms Relating to Mechanical Fabric. **21**, 814 (1921).

Terms Relating to Textile Materials. **22**, I, 976 (1922).

Tentative Methods of:

Testing Cotton Fibers. **22**, I, 973 (1922).

Testing Felted and Woven Fabrics Saturated with Bituminous Substances for Use in Waterproofing. **22**, I, 875 (1922); **23**, I, 796 (1923).

Testing Felted and Woven Fabrics Saturated with Bituminous Substances for Use in Waterproofing and Roofing. **25**, I, 776 (1925).

Testing Grease Wool and Allied Fibers for Scoured Content. **25**, I, 846 (1925).

Testing Textiles. **22**, I, 971 (1922).

Tentative Revision of Standard General Methods of Testing Cotton Fabrics. **23**, I, 973 (1923).

Tentative Specifications and Tests for Osnaburg Cement Sacks. **24**, I, 1079 (1924).

Tentative Specifications for:

Burlap Saturated with Bituminous Substances for Use in Waterproofing. **23**, I, 793 (1923).

Felted Fabrics Saturated with Bituminous Substances for Use in Waterproofing. **23**, I, 787 (1923).

Imperfections and Tolerances for Cord Tire Fabrics. **23**, I, 894 (1923).

Imperfections and Tolerances for 60-in. 17¼-oz. Square-Woven Tire Builder Fabric. **21**, 811 (1921); **22**, I, 967 (1922).

Imperfections and Tolerances for Square-Woven Tire Fabrics. **23**, I, 890 (1923).

Quicklime and Hydrated Lime for Use in the Textile Industry. **22**, I, 703 (1922).

Textile Testing Machines. **25**, I, 829 (1925).

Tolerances and Test Methods for Cotton Sewing Threads. **24**, I, 1076 (1924); **25**, I, 837 (1925).

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Tentative Specifications for (*Continued*):

Tolerances and Test Methods for Cotton Yarns and Cords. **23**, I, 898 (1923).

Tolerances and Test Methods for Cotton Yarns, Single and Plied. **24**, I, 1066 (1924); **25**, I, 831 (1925).

Tolerances and Test Methods for Electrical Cotton Yarns. **24**, I, 1071 (1924).

Tolerances and Test Methods for Knit Goods. **25**, I, 842 (1925).

Tolerances for Hose Ducks and Belt Ducks. **23**, I, 902 (1923); **24**, I, 1063 (1924).

Tolerances for Numbered Cotton Duck. **25**, I, 840 (1925).

Woven Cotton Fabrics Saturated with Bituminous Substances for Use in Waterproofing. **23**, 790 (1923).

"The Design of a Research Laboratory for a Textile Manufacturing Plant." G. B. Haven. **25**, II, 416 (1925).

THERMAL ANALYSIS.

Tentative Recommended Practice for Thermal Analysis of Steel. **25**, I, 890 (1925).

THERMAL CONDUCTIVITY.

"The Status of Thermal Conductivity in Specifications for Refractories." W. A. Hull. **22**, I, 309 (1922).

THERMAL EXPANSION.

Thermal expansion and contraction of metals at various temperatures. **24**, II, 326 (1924).

THERMOCOUPLES.

"Characteristics of Some Materials for Base-Metal Thermocouples." F. E. Bash. **24**, II, 416 (1924). Discussion, 422.

Discussion on Corrosion-Resistant Alloys. **24**, II, 422 (1924).

THERMOMETERS.

Proposed specifications for A.S.T.M. cloud and pour test thermometer, −38 to +50° C., −36 to +120° F. **24**, I, 683 (1924).

Proposed specifications for A.S.T.M. high-distillation thermometer, 0 to 400° C., 30 to 760° F. **24**, I, 693 (1924).

Proposed specifications for A.S.T.M. high-softening-point thermometer, 30 to 160° C., 85 to 320° F. **24**, I, 689 (1924).

Proposed specifications for A.S.T.M. low-cloud and pour test thermometers, −60 to +20° C., −70 to +70° F. **25**, I, 393 (1925).

Proposed specifications for A.S.T.M. low-distillation thermometer, 0 to 300° C., 30 to 580° F. **24**, I, 691 (1924).

Proposed specifications for A.S.T.M. low-softening-point thermometer, 0 to 80° C., 30 to 180° F. **24**, I, 687 (1924).

Proposed specifications for A.S.T.M. paraffin melting point thermometer, 27 to 71° C., 80 to 160° F. **24**, I, 695 (1924).

Proposed specifications for A.S.T.M. Pensky-Martens and Tag flash test thermometer, −7 to +110° C., +20 to +230° F. **24**, I, 685 (1924).

Proposed specifications for A.S.T.M. Pensky-Martens high flash test thermometer, 90 to 370° C., 200 to 700° F. **24**, I, 681 (1924).

Proposed specifications for A.S.T.M. thermometer for Cleveland open cup, −6 to +400° C., +20 to +760° F. **24**, I, 679 (1924).

Report on distillation. **21**, 367 (1921); **23**, I, 355 (1923); **24**, I, 527 (1924).

Reports of the Committee on Thermometers:

Transmitting summary of thermometer specifications appearing in A.S.T.M. standards. Submitting as tentative: specifications for A.S.T.M. partial-immersion thermometer for general use, −20 to +150° C., 0 to +300° F.; A.S.T.M. partial-immersion thermometer for general use, −5 to +300° C., +20 to +580° F.; A.S.T.M. partial-immersion thermometer for general use, −5 to +400° C., +20 to +760° F. Transmitting for inclusion in methods of testing viscosity, specifications for A.S.T.M. thermometers for use with Saybolt viscosimeter. **23**, I, 477 (1923).

Submitting as tentative: A.S.T.M. thermometer for Cleveland open cup, 20 to 760° F.; A.S.T.M. Pensky-Martens high flash test thermometer, 90 to 370° C. or 200 to 700° F.; A.S.T.M. cloud and pour test thermometer, −38 to +50° C. or −36 to +120° F.; A.S.T.M. Pensky-Martens and Tag. flash test thermometer, −5 to +110° C. or +20 to +230° F.; A.S.T.M. low-softening-point thermometer, 0 to 90° C. or 30 to 180° F.; A.S.T.M. high-softening-point thermometer, 30 to 160° C. or 85 to 320° F.; A.S.T.M. low-distillation thermometer, 0 to 300° C. or 30 to 580° F.; A.S.T.M. high-distillation thermometer, 0 to 400° C. or 30 to 760° F.; A.S.T.M. paraffin melting point thermometer, 25 to 70° C. or 80 to 160° F. **24**, I, 675 (1924).

Submitting as tentative: specifications for A.S.T.M. low cloud and pour test thermometer, −60 to +20° C. or −70 to +70° F. Recommending for advancement to standard: Specifications for A.S.T.M. Partial-Immersion Thermometer for General Use, −20 to +150° C., 0 to +300° F.; A.S.T.M. Partial-Immersion Thermometer for General Use, −5 to +300° C., +20 to +580° F.; A.S.T.M. Partial-Immersion Thermometer for General Use, −5 to +400° C., +20 to +760° F. **25**, I, 391 (1925).

Specifications for cloud and pour test thermometer, Tentative Method of Test for Cloud and Pour Points of Petroleum Products. **21**, 674 (1921); **22**, I, 781 (1922); **23**, I, 698 (1923); **25**, I, 725 (1925).

Specifications for high-distillation thermometer, Tentative Method of Test for Distillation of Gasoline, Naphtha, Kerosine, and Similar Petroleum Products. **21**, 631 (1921); **23**, I, 665 (1923); **24**, I, 864 (1924); **25**, I, 685 (1925).

Specifications for low cloud and pour test thermometer, Tentative Method of Test for Cloud and Pour Points of Petroleum Products. **21**, 674 (1921); **22**, I, 781 (1922); **23**, I, 698 (1923); **25**, I, 725 (1925).

Specifications for low-distillation thermometer, Tentative Method of Test for Distillation of Gasoline, Naphtha, Kerosine, and Similar Petroleum Products. **21**, 631 (1921); **23**, I, 665 (1923); **24**, I, 864 (1924); **25**, I, 685 (1925).

Specifications for low-distillation thermometer, Tentative Method of Test for Distillation of Natural Gas Gasoline. **25**, I, 693 (1925).

Specifications for low-softening-point thermometer, Tentative Method of Float Test for Bituminous Materials. **24**, I, 925 (1924); **25**, I, 748 (1925).

Specifications for thermometers used in viscosity tests, Tentative Methods of Test for Viscosity of Petroleum Products and Lubricants. **23**, I, 672 (1923); **24**, I, 883 (1924); **25**, I, 707 (1925).

Summary of thermometer specifications appearing in A.S.T.M. Standards. **23**, I, 478 (1923).

Tentative Specifications for:

A.S.T.M. Partial-Immersion Thermometer for General Use, −20 to +150° C., 0 to +300° F. **23**, I, 905 (1923).

A.S.T.M. Partial-Immersion Thermometer for General Use, −5 to +300° C., +20 to +580° F. **23**, I, 907 (1923).

A.S.T.M. Partial-Immersion Thermometer for General Use, −5 to +400° C., +20 to +760° F. **23**, I, 909 (1923).

THINNERS, PAINT.

See **Paints** (page 99); **Turpentine** (page 146).

THREADS.

Tentative Specifications for Tolerances and Test Methods for Cotton Sewing Threads. **24**, I, 1076 (1924); **25**, I, 837 (1925).

TILE.

See also **Building Tile** (page 39); **Drain Tile** (page 63); **Sewer Pipe** (page 120).
Discussion on Partition Tile or Block. **25**, I, 218 (1925).

"Properties of Gypsum Tile." J. M. Porter. **24**, II, 901 (1924).

Proposed Revisions of the Standard Methods of Testing Gypsum and Gypsum Products. **25**, I, 216 (1925).

Resistance of tile to the action of alkalies and acids in the soil. **24**, I, 391 (1924).

Results of freezing tests to determine weathering resistance of building tile. **24**, I, 418 (1924).

Results of tests on gypsum partition tile. **24**, II, 904 (1924).

Summary of results of compression and absorption tests of building tile. **24**, I, 412 (1924).

Tentative Definitions of Terms Relating to Hollow Tile. **21**, 602 (1921); **23**, I, 640 (1923).

Tentative Revision of Standard Specifications for Drain Tile. **23**, I, 960 (1923).

Tentative Specifications and Tests for:

Hollow Burned-Clay Fireproofing, Partition and Furring Tile. **24**, I, 824 (1924).

Hollow Burned-Clay Floor Tile. **24**, I, 829 (1924).

Hollow Burned-Clay Load-Bearing Wall Tile. **24**, I, 818 (1924).

Tentative Specifications for:

Gypsum Partition Tile or Block. **23**, I, 632 (1923); **24**, I, 840 (1924).

Clay Hollow Building Tile. **21**, 547 (1921).

TIMBER.

Basic grades as applied to Douglas fir and southern pine. **24**, I, 599 (1924).

Discussion on Defects in Timber. **24**, II, 988 (1924).

Discussion on Timber Preservatives. **23**, II, 513 (1923).

"A Fungus Bed Test of Wood Preservatives." Cloyd M. Chapman. **23**, II, 501 (1923). Discussion, 513.

"Impact Tests of Wood." Thomas R. C. Wilson. **22**, II, 55 (1922). Appendix, 71. Discussion, 137.

Proposed Revisions of Tentative Methods of Testing Small Clear Specimens of Timber (D 143 – 22 T). **24**, I, 616 (1924).

Reports of the Committee on Timber:

Progress report submitting revision of Standard Specification for Yellow-Pine Bridge and Trestle Timbers. Submitting revision of Tentative Specifications for Structural Douglas Fir. Transmitting reports of Sub-Committees on: Pacific Coast Timbers; Interpretation of Timber Tests; Methods of Testing. Offering comments on working stresses in structural timbers with allowable working stresses in dense structural yellow pine. **21**, 384 (1921).

Submitting as tentative: methods of testing small clear specimens of timber. **22**, I, 466 (1922).

Submitting revisions of: Standard Methods of Sampling and Analysis of Creosote Oil. Submitting as tentative: method of test for coke residue of creosote oil. Transmitting reports of Sub-Committees on: Timber Preservatives; Methods of Testing. **23**, I, 416 (1923).

Submitting revisions of: Standard Methods of Sampling and Analysis of Creosote Oil. Submitting revisions of the Tentative Methods of Testing Small Clear Specimens of Timber. Submitting as tentative: methods of analysis of zinc chloride; for conducting static tests of timbers in structural sizes. Transmitting reports of Sub-Committees on: Specifications for Timber; Timber Preservatives; Methods of Testing. **24**, I, 591 (1924).

Progress report transmitting reports of Sub-Committees on: Specifications for Timber, including suggested specifications for grades and classification of timber; Timber Preservatives. **25**, I, 310 (1925).

Report on interpretation of timber tests. **21**, 386 (1921).

Report on methods of testing. **23**, I, 418 (1923); **24**, I, 614 (1924).

Report on Pacific Coast timbers. **21**, 385 (1921).

Report on specifications for timber. **24**, I, 594 (1924); **25**, I, 312 (1925).

Report on timber preservatives. **23**, I, 417 (1923); **24**, I, 611 (1924); **25**, I, 340 (1925).

Working Stresses for Douglas Fir and Southern Pine. **25**, I, 335 (1925).

"Structural Timbers: Defects and Their Influence on Strength." J. A. Newlin and R. P. A. Johnson. **24**, II, 975 (1924). Discussion, 988.

Tentative Methods for Conducting Static Tests of Timbers in Structural Sizes. **24**, I, 976 (1924).

Tentative Methods of Testing Small Clear Specimens of Timber. **22**, I, 827 (1922); **24**, I, 939 (1924).

Tentative Revision of Standard Specifications for Materials for Cement Mortar Bed for Brick, Stone Block and Wood Block Pavements. **23**, I, 968 (1923).

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Use Specifications: Buildings. **24**, I, 609 (1924).

Working stresses in structural timber. **21**, 389 (1921).

TIMBER PRESERVATIVES.

See also **Creosote Oil** (page 61).

Discussion on Timber Preservatives. **23**, II, 513 (1923).

"A Fungus Bed Test of Wood Preservatives." Cloyd M. Chapman. **23**, II, 501 (1923). Discussion, 513.

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Tentative Methods of Chemical Analysis of Zinc Chloride. **24**, I, 995 (1924).

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Discussion on Time of Set of Concrete. **21**, 1007 (1921).

"Electrical Resistance Methods for the Determination of the Time of Set of Lime Plaster." J. W. Stockett, Jr. **24**, I, 404 (1924).

"Time of Set of Concrete." Watson Davis. **21**, 995 (1921). Discussion, 1007.

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Discussion on Non-Ferrous Metals and Alloys. **23**, I, 188 (1923).

"A List of Alloys." William Campbell. **22**, I, 213 (1922).

"A Review of the Tin Situation." Lawrence Addicks. **23**, I, 184 (1923). Discussion, 188.

Report on methods for determining weight of coating on iron and steel. **23**, I, 167 (1923).

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Tentative Methods of:

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Tentative Specifications for:

Brass Ingot Metal, Graded and Ungraded, for Sand Castings. **21**, 491 (1921).

Phosphor Tin. **24**, I, 779 (1924).

"The Influence of the Ratio of Length to Diameter in the Compression Testing of Babbitt Metals." John R. Freeman, Jr., and Paul F. Brandt. **23**, II, 150 (1923).

"The Physical Properties of the A.S.T.M. Tentative Standard White Metal Bearing Alloys." John R. Freeman, Jr. **22**, I, 207 (1922).

TIRE.

Tentative Specifications for:

Imperfections and Tolerances for Cord Tire Fabrics. **23**, I, 894 (1923).

Imperfections and Tolerances for 60-in. 17¼-oz. Square-Woven Tire Builder Fabric. **21**, 811 (1921); **22**, I, 967 (1922).

Imperfections and Tolerances for Square-Woven Tire Fabrics. **23**, I, 890 (1923).

TITANIUM.

Methods of Analysis and Reports of Collaborators on the Analysis of Titanium Pigments. **24**, I, 443 (1924).

Tentative Methods of Routine Analysis of Titanium Pigments. **24**, I, 859 (1924).

TOOL STEEL.

"Comparative Tests of Steels at High Temperatures." R. S. MacPherran. **21**, 852 (1921). Discussion, 861.

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Braided Air Hose for Use with Pneumatic Tools. **21**, 788 (1921); **23**, I, 856 (1923).

Wrapped Air Hose for Use with Pneumatic Tools. **21**, 784 (1921); **23**, I, 852 (1923).

"The Significance of Tool Temperatures as a Function of the Cutting Resistance of Metals." H. A. Schwartz and W. W. Flagle. **23**, II, 27 (1923).

TORSION.

"Accelerated Fatigue Tests and Some Endurance Properties of Metals." D. J. McAdam, Jr. **24**, II, 454 (1924). Discussion, 601.

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Proposed Methods for Torsion Tests to Determine the Mechanical Properties of Metallic Materials Under Shearing Stress. **25**, I, 430 (1925).

Symposium on Effect of Temperature Upon the Properties of Metals. **24**, II, 9 (1924). Discussion, 142.

"The Endurance Range of Steel." D. J. McAdam, Jr. **24**, II, 574 (1924). Discussion, 601.

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Tentative Revisions of Standard Specifications for Steel Track Spikes. **22**, I, 981 (1922); **23**, I, 952 (1923).

TRANSFORMER OILS.

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Dielectric strength of transformer oils with various shapes of electrodes. **21**, 402 (1921).

Discussion on Durability Tests of Transformer Oils. **22**, II, 538 (1922).

Joint comparative tests of spark gaps for testing transformer oils. **21**, 397 (1921).

"Life Test for Transformer Oils." E. A. Snyder. **24**, I, 638 (1924).

"Life Test for Transformer Oils." E. A. Snyder and D. C. Cox. **25**, I, 363 (1925).

"Method for Determining Sludging Properties of Transformer Oils." E. A. Snyder. **23**, I, 448 (1923).

Methods for Determining Sludging Properties of Transformer Oils. **23**, I, 451 (1923).

Procedures in sludging tests for transformer oils. **21**, 407 (1921).

"Sludging Tests for Transformer Oils: A Criticism of Various Test Methods and a Proposed New Method of Test." E. A. Snyder. **24**, II, 954 (1924). Discussion, 973.

Tentative Method of Testing Transformer and Switch Oils. **21**, 737 (1921).

"The Problems of Durability Tests for Transformer Oils." T. G. Delbridge. 22, II, 532 (1922). Discussion, 538.

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Discussion on Cast Iron for Pipe. **24**, II, 706 (1924).

"Fatigue or Progressive Failure of Metals Under Repeated Stress." H. F. Moore, J. B. Kommers, and T. M. Jasper. **22**, II, 266 (1922). Discussion, 288.

"Some Observations on the 'Nick-Bend' Test for Wrought Iron." Henry S. Rawdon and Samuel Epstein. **22**, II, 193 (1922).

"The Standard Test Bar for Cast-Iron Pipe with Special Reference to Its Progressive Deflection." James T. MacKenzie. **24**, II, 664 (1924). Discussion, 706.

TROLLEY WIRE.

Tentative Revision of Standard Specifications for High Strength Bronze Trolley Wire, Round and Grooved, 40 and 65-per-cent Conductivity. **25**, I, 902 (1925).

Tentative Specifications for Round and Grooved Hard-Drawn Copper Trolley Wire. **23**, I, 577 (1923).

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Discussion on Condenser Tubes. **22**, I, 243 (1922).

Discussion on Plastic Flow in Capillary Tubes. **23**, II, 663 (1923).

Discussion on Plastic Flow Through Tubes. **21**, 1157 (1921).

"On Plastic Flow Through Capillary Tubes." E. Buckingham. **21**, 1154 (1921). Discussion, 1157.

Tentative Revisions of Standard Specifications for:

Lap-Welded and Seamless Steel Boiler Tubes for Locomotives. **22**, I, 981 (1922); **23**, I, 953 (1923).

Lap-Welded and Seamless Steel and Lap-Welded Iron Boiler Tubes. **25**, I, 896 (1925).

Seamless Admiralty Condenser Tubes and Ferrule Stock. **25**, I, 902 (1925).

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Tentative Specifications for:
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Muntz Metal Condenser Tube Plates. **25**, I, 583 (1925).
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Results of cooperative analysis on samples of chia oil, rubberseed oil, sunflowerseed oil and tung oil. Comments of analysts. **22**, I, 369 (1922).
Tentative Revisions of Standard Specifications for Purity of Raw Tung Oil. **21**, 835 (1921); **22**, I, 991 (1922); **23**, I, 968 (1923).
Tentative Specifications for Raw Tung Oil. **22**, I, 742 (1922); **23**, I, 644 (1923); **25**, I, 636 (1925).

TUNGSTEN.
"Characteristics of Material for Valves Operating at High Temperatures." J. B. Johnson and S. A. Christiansen. **24**, II, 383 (1924). Discussion, 422.
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Tentative Specifications for Turpentine. **21**, 604 (1921).

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ULTRA-VIOLET LIGHT.
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